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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,032

04/11/2007

Yoshitsugu Morita

71,051-035

6909

27305

7590

03/28/2008

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EXAMINER

PATEL, REEMA

ART UNIT

PAPER NUMBER

2812

MAIL DATE

DELIVERY MODE

03/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/584,032

Applicant(s)

MORITA ET AL.

Examiner

Reema Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CS-100)
Paper No(s)/Mail Date 4/11/07
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted was on 4/11/07. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu (U.S. 6,509,423 B1) in view of Miyajima et al. (U.S. 2002/0015748 A1; hereinafter 'Miyajima').
5. Regarding claims 1, 5, 8-9, and 12, Zhu discloses a curable silicone composition comprising the following: (A) an organopolysiloxane having at least two alkenyl groups per molecule (col 4, lines 30-50); (B) an organopolysiloxane having at least two silicon-bonded hydrogen atoms per molecule (col 5, line 55 – col 7, line 25); (C) a platinum-type catalyst (col 9, lines 3-12); and (D) a filler (col 7, lines 26-32), wherein said

component (A) contains siloxane units of formula $\text{RSiO}_{3/2}$ (where R is a univalent hydrocarbon group) (col 16, line 51 – col 17, line 8).

6. Zhu discloses the resin may be used in manufacturing electronic devices but does not explicitly disclose using the composition with a compression molding apparatus to seal a semiconductor device. However, Miyajima discloses a compression molding apparatus using a resin to seal a semiconductor device. Miyajima discloses the semiconductor device is clamped between an upper and lower mold and a resin is fed in between the space of the molds, where after the resin is subjected to compression molding ([0058]-[0063]). Miyajima discloses the unsealed semiconductor device may comprise semiconductor chips on a printed-circuit board electrically interconnected via bonding wires ([0088]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Zhu with using the resin in a compression molding apparatus, as taught by Miyajima, so as to seal a semiconductor device.

7. Regarding claim 2, Zhu discloses that compound (A) contains siloxane units of formula $\text{RSiO}_{3/2}$ with a weight-average molecular weight exceeding 1500 (col 13, lines 44-53).

8. Regarding claim 3, Zhu discloses the amount of filler in the curable silicone composition is equal to or exceeds 60 wt % (col 15, lines 39-43).

9. Regarding claim 4, Zhu discloses the curable silicone composition is a two-liquid type composition composed of a composition comprising components (A), (C), (D) as

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main components without component (B), and another composition comprising components (B), (D), as main components without component (C) (col 10, lines 5-13).

10. Regarding claim 6, Zhu and Miyajima do not disclose the composite modulus of elasticity of the cured silicone body is equal to or below 1 GPa. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the modulus of elasticity equal to or lower than 1 GPa, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

11. Regarding claims 7, Miyajima discloses at least two semiconductor devices are sealed and then the sealed assembly is cut into separate sealed semiconductor devices ([0077]).

12. Regarding claims 10-11, Miyajima discloses the inner surfaces of the mold are covered with an attached release film ([0050]) and the release film is attached to the inner surface of the mold by air suction ([0053]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reema Patel whose telephone number is (571)270-1436. The examiner can normally be reached on M-F, 8:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on 571-272-1873. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RSP

/Michael S. Lebentritt/

Supervisory Patent Examiner, Art Unit 2812